

ABSTRACT OF THE DISCLOSURE

Disclosed is a permanent magnet motor consisting of a rotor which is a multi polar-magnetized cylindrical permanent magnet such as a neodymium/iron/boron magnet, and a stator having a plurality of stator teeth. Different from conventional but expensive multi-radial orientation of the magnetic anisotropy, the cylindrical permanent magnet has a direction of orientation along a single diameter of the cylinder that is perpendicular to the cylinder axis when a definite relationship is held between the number of the multipolar magnetic poles and the number of the stator teeth. Even when using such a simple and inexpensive cylindrical permanent magnet as the rotor, high performance of the permanent magnet motor can be ensured with regard to a large induced voltage and small torque ripples. When such a rotor having an increased height is desired, two or more of the cylindrical unit permanent magnets each having a single diametrical orientation are coaxially stacked one on the other into a block in such a relative disposition that the directions of two adjacent cylindrical unit permanent magnets make a rotational displacement angle of 180° divided by the number of the unit magnets.